Ophthalmia Neonatorum; Contraction of Eyelids; Glaucoma; Grattage for Granular Lids.

BY

L. WEBSTER FOX, M.D.,

Professor of Ophthalmology in Medico-Chirurgical College of Philadelphia.

Reprinted from THE MEDICAL BULLETIN,

OPHTHALMIA NEONATORUM; CONTRACTION OF EYELIDS; GLAUCOMA; GRATTAGE FOR GRANULAR LIDS.

By L. WEBSTER FOX, M.D.,

Professor of Ophthalmology in Medico-Chirurgical College of Philadelphia.

GENTLEMEN: The cases which I bring to your notice to-day will, I am sure, be interesting, and also prove of value to you in your future professional career.

Case 1.—Ophthalmia neonatorum. You are aware, by this time, that one of the most frequent causes of blindness in childhood is caused by the secretions of the mother infecting the conjunctiva of the eyes in the passage of the child through the vagina during parturition. Probably 70 per cent. of the children filling the blind asylums to-day are in this deplorable condition because the attending physician or nurse was careless, or did not possess the knowledge requisite to successfully combat this disease at its inception.

This little baby, 3 weeks of age, has been referred to us by the family physician because the disease has proven more intractable than usual. Two days after birth the nurse noticed a straw-colored discharge oozing from both eyes, and the eyelids began to grow swollen and puffy; immediately a boracic solution was

applied, and, in addition, plenty of warm-water ablutions. This line of treatment was applied daily, and continued up to two days ago, when the case came to the out-patient department of the hospital.

The germ of infection was evidently not so virulent in its action, or we should have had ulceration of the cornea long before this. By the continued dilution of the secretion, the conjunctiva was the only tissue which was attacked. The continued applications probably did not reach the retrotarsal *cul-de-sac*, the seat of the trouble. Merely dropping the boric solution between the eyelids and washing the pus away, as it shows itself along the margins of the lids, is not sufficient to cure the disease, although it modifies it and allows it to extend over a longer period of time. The child's head must be placed between the knees of the attendant, the child held by the nurse, and then the upper lid everted, and by a gentle manipulation the lower lid may also be turned out. After this exposure, as I show you with this child, an application of nitrate of silver (5 grains to the ounce) is made once daily, and, in addition, followed in one hour by a favorite lotion which we use in all purulent discharges of the eyelids. I will again repeat it so that you may take the formula down for future use:—

℞ Menthol,
Thymol, . . . āā gr. j.
Zinci. sulph. carb., . . gr. xx.
Acidi boric.,
Sodii chlor., . . āā ʒj.
Ext. hamamelis dest., . ʒj.
Aq. camph.,
Aq. dest., . . . āā ʒĭj.

M. Sig.: Apply to eyes three times daily.

After three applications of the nitrate of silver there was marked improvement, and no doubt the child will be discharged cured in a few days.

I again call your attention to the treatment of this affection, but more particularly to the prophylactic measures to be followed out in all cases. The Germans have inaugurated a definite plan of prophylaxis, and other countries have taken it up, and already a marked decrease in the number of blind children throughout the world is observed. Crede's (Leipsic) method, when properly followed out, prevents almost to a certainty the outburst of ophthalmia. It is essentially as follows: As soon as the child is born, take a piece of clean muslin or absorbent cotton, and wipe both eyes carefully, then bathe the child, and after the bath again wash the eyes. Then drop into each eye one or two drops of 2-per-cent. solution of nitrate of silver. Five to ten grains to the ounce is always a safe formula to adopt.

The frequency of ophthalmia neonatorum

among children in the various lying-in hospitals varies from 2 to 20 per cent. Among the poorer classes in large cities—those living in their own homes—it varies from 1 to about 5 per cent. Among the well-to-do classes the percentage is very low on account of the better care pregnant women receive, hygienic surroundings, bathing, frequent irrigation of the vagina, etc.

In the mild forms of the discharge no gonococci are found, while they are very numerous in the more virulent discharges. It would be well for you, gentlemen, always to ascertain whether or not the mother had a discharge, either mild or profuse, before the birth of the child. If she says "yes," be on your guard and accept no light measures. Make yourselves feel that you have a most serious case to deal with. You can do no harm by being over-careful, and you may save a baby's eyesight.

Statistics state that there are over three hundred thousand blind people in Europe to-day, and 10 per cent. of these unfortunates might be enjoying the precious gift of sight, had not some one been very derelict in his duty. Don't let it be ever said of you that your ignorance caused a blind child to be reared and educated at the State's expense, and that the most precious of all the senses was destroyed through your ignorance.

Case 2.—Chronic contraction of eyelids with trichiasis (under ether). This young man comes to us with a most deplorable condition of his eyelids. As you will notice, he has lost his eyelashes, and the conjunctiva has been absorbed, cicatricial tissue has taken its place, and in consequence the cartilages of both upper lids contracted, causing great pressure and much discomfort to the eyeballs; at times the pain is excessive. The edges of the eyelids are always red and watery. This is a very common symptom of chronic granular lids,—watery eye, technically called epiphora. What is to be done is to give him relief.

We make a thorough examination of the under surface of the eyelids, and particularly of the retrotarsal fold. The lower half of the upper lid may be perfectly smooth, and yet a very marked condition of granulation may exist in the parts just described. (It is a very difficult process to evert the eyelid without a Darrier's forceps; in fact, it is almost impossible; but, as you see, I am enabled with this instrument to roll the eyelid upon itself until the whole of the *cul-de-sac* is exposed.) Fortunately for this young man, we have not to deal with such complications. We now resort to the one operation which gives the greatest amount of relief for this contraction of the eyelids. It is well known to you, as you have had several opportunities of seeing its applica-

tion to other patients suffering with granular lids.

This is the first case of this kind which has presented itself. We shall perform Burow's operation: The lid is everted over this black spatula, placed first upon the lid. An incision is made through the cartilage with a Beer's knife long enough to admit the blade of the scissors. This cut is then made through the cartilage from the middle to the inner canthus, and also from the middle to outer canthus. The line of incision is parallel with and about three millimetres from the border of the lid margin. The integument is not cut through. This splitting the cartilage usually gives a very satisfactory elongation of the eyelids; and if any stray eyelashes should be present, they are pressed outward, and assume a more natural position.

I will also perform the same operation upon the other eyelid, as the same pathological conditions exist.

As you notice, there is very little or no bleeding; if we should cut a small artery, simply use a few twists of a forceps, and no further trouble ensues.

After-treatment.—The after-treatment in this case will be very simple. A saturated cotton pad of the following lotion will be kept constantly on both eyes for two or three days:—

℞ Acidi borici, . . . grs. xx.
Tinct. opii, . . . ℥iss.
Liq. plumbi subacetatis, . ℥ij.
Tr. arnica, . . . ℥j.
Aq. camph.,
Aq. destillata, āā q. s. ad ℥iv.—M.

The simpler method of applying this lotion is to have the nurse drop a drachm of it on the cotton pads, which by this process need not be removed from the eyelids. The cotton pads are kept in place by two strips of narrow adhesive plaster. The lotion is applied every half-hour.

There is one ingredient in this lotion to which I must call your attention, and that is the plumbum. This drug must never be applied to the eyeball or eyelid where there is the least suspicion of any ulceration of the cornea or the least desquamation of the corneal epithelium. The fine particles of the plumbum find a resting-place there, and the result would be a slight white deposit, greater in density, however, as the relative depth of the necrosed tissue. Therefore, always be careful in applying this lotion, or any lotion containing plumbum. For all bruises, cuts, or abrasions of the eyelids, I know of no better lotion to use.

Case 3.—Glaucoma operation performed; iridectomy in both eyes. This man, as you remember, had both eyes operated upon

last Friday for chronic glaucoma. In one eye the vision was almost *nil*, while with the other he could barely count fingers at five feet.

As regards the result of the operation, that speaks for itself. No reaction, no pain, no swelling of the eyelids, nothing but complete and a most satisfactory recovery from the operation, and so it has been from the first day.

Just before the operation, a week ago, the tension was $+3$, and pain in both eyeballs. To-day the tension is down to normal, and what is still more pleasing, not only to ourselves, but also to the patient, his vision has improved; he now counts my fingers, as you see, at about twenty feet,—a very great gain to a blind man.

As a rule, an operation on a glaucomatous eye does not benefit the remaining vision; the operation is performed, first, to prevent the increasing intra-ocular tension, to make a safety-valve for the excessive secretions; and, second, to hold the vision, in the eye at the time of the operation.

As to the cause of this disease, we are still in doubt; but suffice it to say that the majority of the authorities in ophthalmology seem to think that it is the closing of the canal of Schlemm, and we do know that Van Graefe's great operation—iridectomy, removing a trian-

gular section of the iris—is the one method by which we may retain the eyesight. It is not, however, simply removing the iris which makes a permanent cure, but the secret of success in this operation is to have the incision well in the sclerotic coat (four millimetres), and one-sixth the circumference of the eyeball in length. The ophthalmoscope shows the deep cupping of both optic nerves, with the blood-vessels running over the edges, and dipping into the excavation so characteristic of chronic glaucoma. We shall continue to watch this case from time to time, not only for direct, but also for lateral vision. As you have frequently been told, one of the first evidences of failing sight in glaucoma is contraction of the field of vision, although the patient may have almost normal central sight, as was shown you in a patient a few weeks ago.

Cases 4 and 5.—Granular lids. Modified grattage operation. Patients under ether. These Indian boys belong to the Sioux tribe, and are being educated at the Indian school in this city. We have had many cases of granular lids brought to our notice, but never have I seen anything like the severity of these cases. I am sure that Dublin, the home of granular lids, could not produce any more typical examples. The conjunctival surfaces of both eyes are as rough as the upper side of a nutmeg-

grater; the granulations stand out like small raspberries, and, from their hard, gritty condition, they have caused pannus of both corneæ.

The majority of Indian children coming East do not possess the good sight that our white children have, for the simple reason that their habits are not as cleanly, and a great deal of their time is spent, especially during the winter months, in their smoky tepees, which provoke many eye troubles. The greater number of Indian children who have come under my observation during the last ten years have more or less trouble with their eyelids. What I propose to do with these two boys to-day is to get rid of the granulations in the quickest way possible. The routine practice was formerly to use caustics, powerful astringents, or the actual cautery, all to the same end,—that is, to get rid of the granulations and render smooth the inner surface of the eyelids. According to Mutermilch, it takes a case of granular lids ten years to cure itself, and about the same time, according to this distinguished author, if the ordinary every-day treatment is applied. It was only after Manolescu, of Bucharest, had the courage to inaugurate and give to the world a radical method of treatment, that we are now able to cure granular lids of the worst type in a few weeks. During a recent visit to Paris I saw the operation put

to a practical test by Dr. Darrier; I also had the opportunity of examining a number of patients upon whom the operation had been performed months before with most gratifying results.

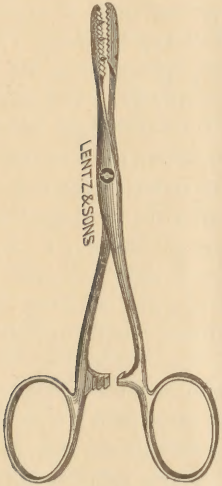

FIG. 1.

FIG. 2.

The technique which I follow to-day differs in only one procedure from that suggested by Darrier, and that is, I add the Burow operation to it.

Two instruments have been specially devised for this operation. First, a catch dressing forceps, which I show you (Fig. 1), having on the male blade three pins, which, when the instrument is closed, pass through corresponding openings in the opposing or female blade; this forceps grasps the eyelid along its margin, and is used in turning the edge upon itself, rolling the lid outward until the retrotarsal fold is exposed; then, with this three-bladed scalpel (Fig. 2), the exposed part is thoroughly scarified, not only horizontally, but also vertically. The scarified surface is scrubbed with a tooth-brush in which the bristles have been cut down to about one-half their usual length, as you see in the one I am using. Immediately after the grattage I apply a solution of the hydrarg. bichlor. 1 to 500. Another part of the lid is then unrolled, and the scarifying, scrubbing, and washing is repeated; and in like manner both eyelids are treated.

Very little reaction follows these apparently harsh measures; very little pain; it is more like a soreness and stiffness of the lids, as the patients express it. In the hospital nothing is done to the under surface of the lids before the second or third day, when the eyelids are everted and washed again with the 1-to-500 corrosive-sublimate solution. This treatment may be continued for a week, or until desquamation of the granulations ceases. If after three

weeks a few irregular granulations remain, they may be cut off with scissors and the spots touched with a solid stick of nitrate of silver. The success of this operation depends upon its thoroughness. If any true trachoma remain behind, they will again spread over the remaining healthy conjunctiva, as no granulations can breed on cicatricial tissue.

Burow's operation is also performed in these two cases to protect and prevent the contraction of the cartilages of the eyelids, which nearly always follow when the normal conjunctiva has been substituted by cicatricial tissue, and of which we had such a typical example in the second patient we saw to-day.

After-treatment.—We again follow the same line of treatment as suggested in Case No. 2. Saturate the cotton pads with the lotion as prescribed, keeping the eyelids moist day and night, and not allowing any pressure on the pads, simply holding them in place with the adhesive strips. The patients will be kept in bed for two or three days, and at the end of this time they will be able to open both eyelids without pain, and in a week or ten days leave the hospital cured.

Reported by Miss L. C. Alexander.